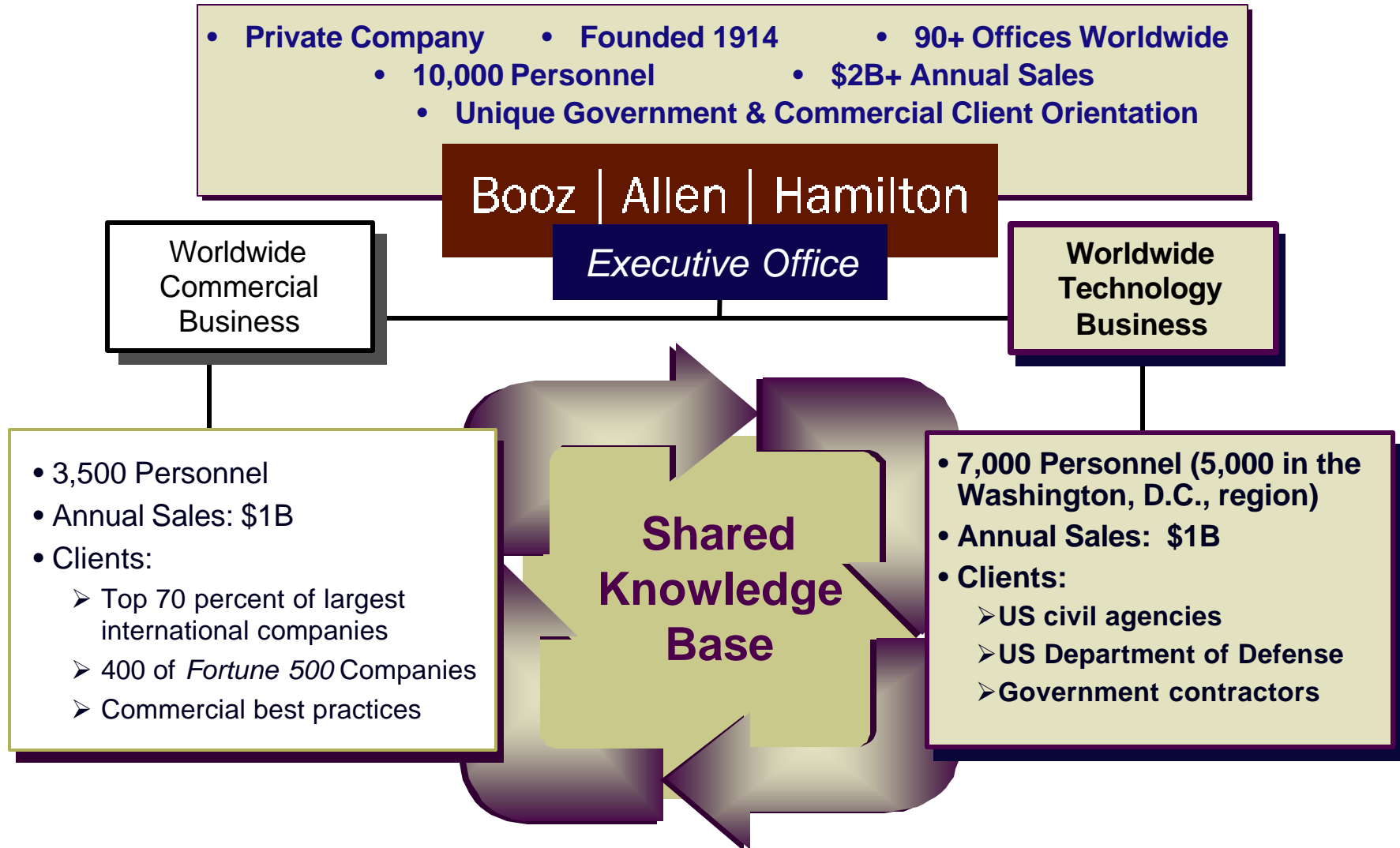


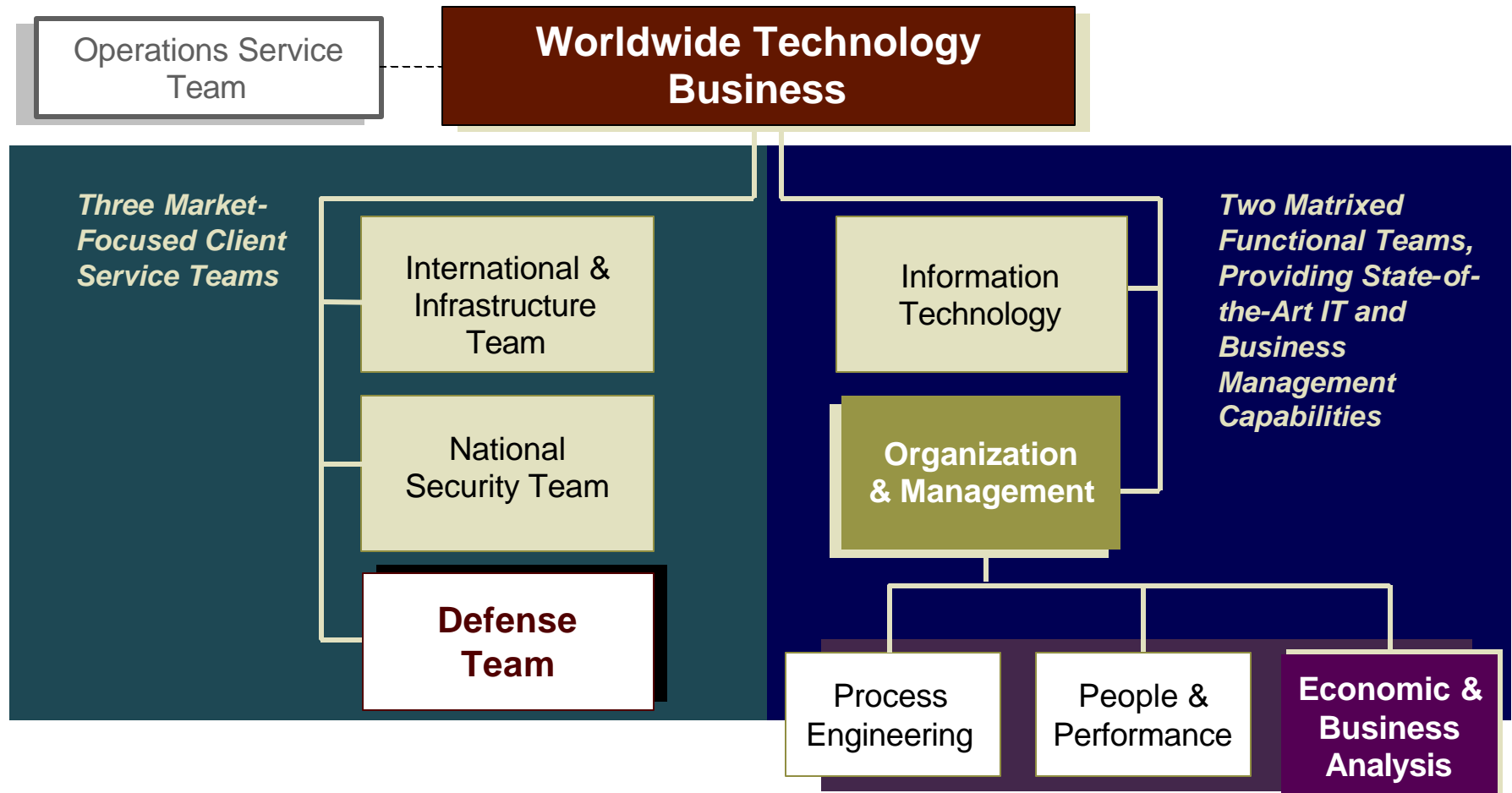
Overview of  
Booz Allen Hamilton's  
Operations & Support Cost Estimating (O&SCE)  
Capabilities

# Booz Allen Hamilton Worldwide Commercial and Technology Businesses

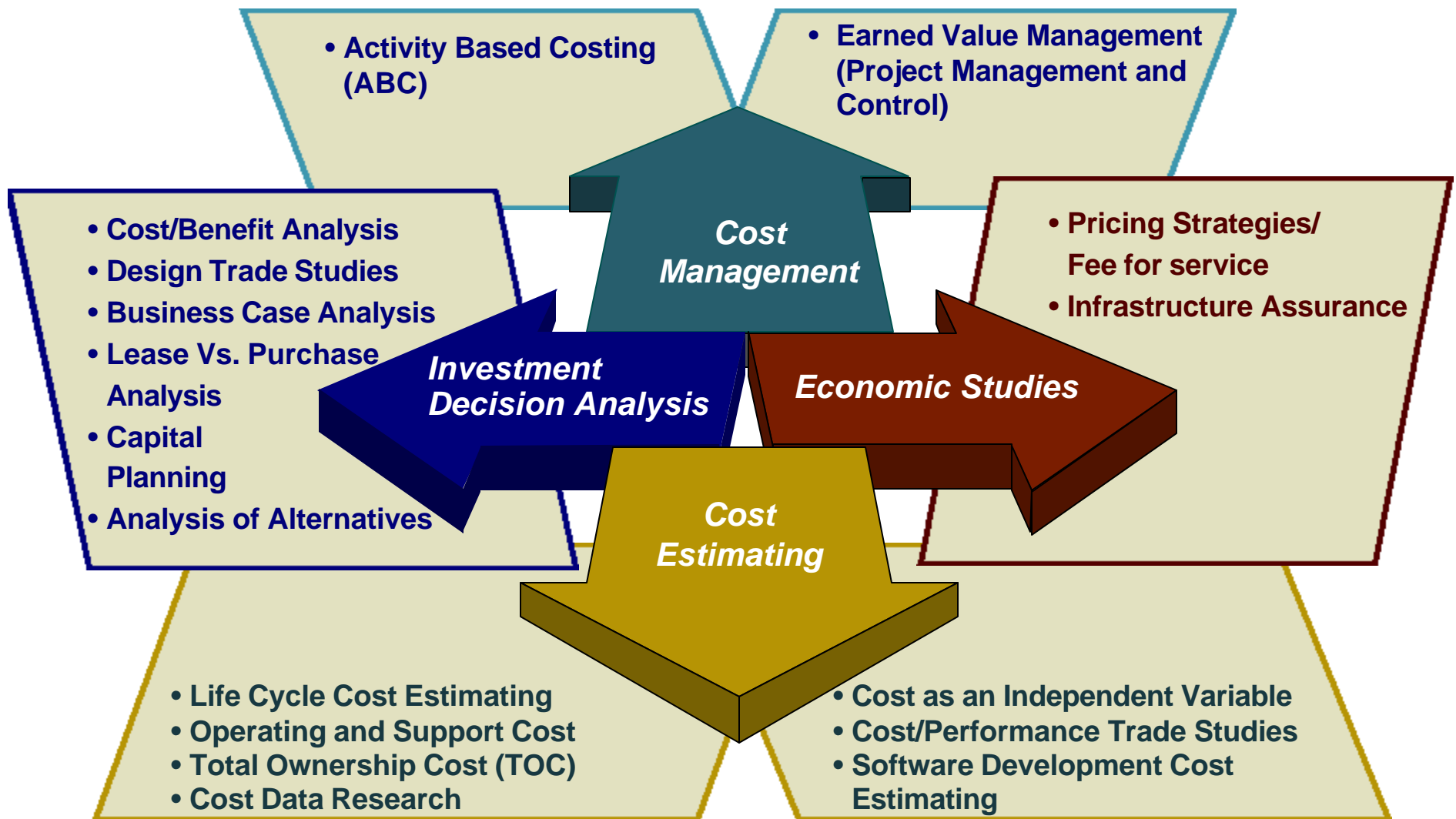


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# Booz Allen Hamilton: Worldwide Technology Businesses



# EBA Offers the Full Complement of Cost Estimating, Acquisition, and Financial Management Services



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# Booz Allen has Provided CE/CA Services to an Impressive Portfolio of Satisfied Clients

## *Department of Defense*

- Joint Chiefs of Staff
- Office of the Chief of Naval Ops
- USAF, Electronic Systems Command
- USAF, Space & Missile Systems Center
- Marine Corps Recruiting Command
- Marine Corps Systems Command
- Naval Sea Systems Command
- Naval Air Systems Command
- Space and Naval Warfare
- Systems Command
- Naval Supply Center
- Army Printing and Publications Command
- Defense Medical Systems Command
- Joint Spectrum Center
- Special Operations Command

## *National Security*

- Central Intelligence Agency
- National Reconnaissance Organization
- National Security Agency

## *Civilian Agencies*

- U.S. Senate
- Presidential Commission on
- Critical Infrastructure Protection
- Bureau of the Census
- National Institute of Standards & Technology
- Federal Bureau of Investigation
- Public Safety Wireless Network
- Social Security Administration
- National Aeronautics & Space Administration
- Department of Commerce
- Department of Education
- Treasury Department
- Department of Housing & Urban Development
- Federal Aviation Administration
- General Services Administration
- Pension Benefit Guarantee Corporation
- Immigration and Naturalization Service

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# Booz Allen's Cost and Economic Analysis Team Includes Several "Thought Leaders" Having National Recognition

## *Leaders in the Cost Community (Society of Cost Estimating and Analysis)*

- Dan Nussbaum
  - National Vice-President
  - Chair, Professional Development Training Committee
  - Former Director, Naval Center for Cost Analysis (NCCA)
- Peter Andrejev
  - 2000 National Cost Estimator/Analyst of the Year - Management
  - Washington DC Area Chapter President
- Gary Boulware
  - National Regional Vice-President

## *Name Recognition in Client Markets*

- Sandy Milford
  - > 20 yrs. Experience Developing LCC Estimates for Various Major Tactical and Non-Tactical Acquisition Programs

## Of Booz Allen's 70 Cost Analysts, 26 Have More Than 10 Years of Experience and ...

	Staff Credentials				LCC /TOC Experience				
Name	Cert	Security Clearance	Years Exp.	Location	Ship Systems	Aircraft Systems	C4I Systems	Weapon Systems	S/W Systems
Craig, B.	CCEA	Secret	36	Crystal City	X	X	X	X	X
Nussbaum, D.	CCEA	TS-SSBI	32	McLean	X	X	X	X	X
Starnes, C.		TS-SCI	15	McLean	X	X	X	X	
Diaz, R.	CCEA	Secret	12	McLean	X		X	X	
Krawczyk, J.	CCEA	Secret	14	McLean	X	X	X	X	
Henry, J.		TS-SCI	28	McLean	X	X	X	X	X
Park, S.	CPCM	TS-SSBI	26	McLean	X	X	X	X	
Jerakis, M.		Secret	12	McLean	X	X	X		X
Jain, S.	CCEA	Secret	14	McLean		X	X	X	X
Boulware, G.	CCEA	TS-SCI	23	McLean	X	X	X	X	X
Olinick, J.		Secret	14	McLean			X	X	
Milford, S.	CCEA	Secret	22	McLean	X	X	X	X	X
Andrejev, P.	CCEA	Secret	21	McLean	X		X	X	X
Korkemaz, J.		TS-SSBI	20	Crystal City	X	X	X	X	X

... Has Over 60 Engineers and Analysts.

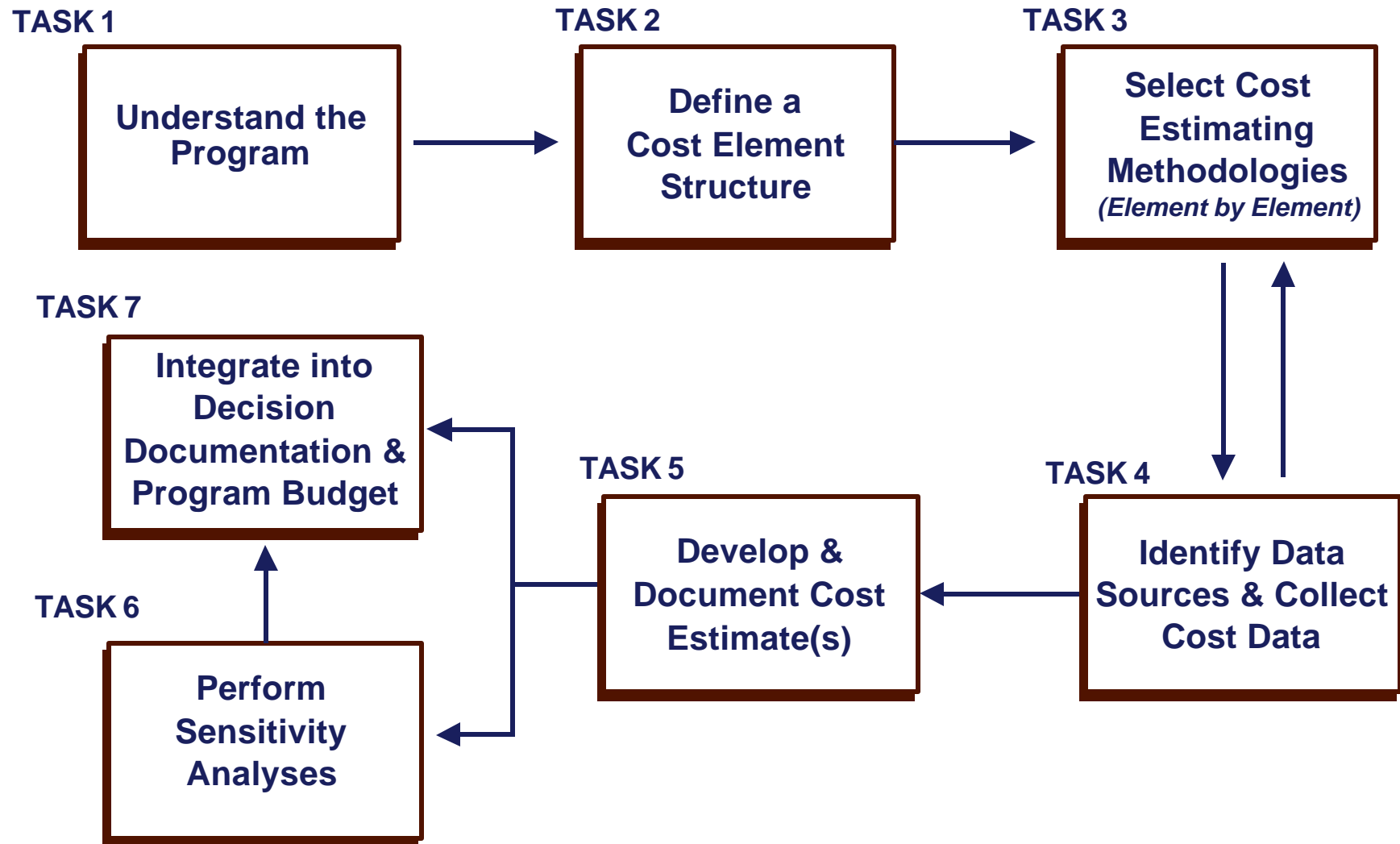
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# Our Staff Has Experience in O&S Costing Efforts...

	Staff Credentials				Maritime Experience				
Name	Degree	Security Clearance	Years Exp.	Location	Ship Acquisition	Ship Logistics	Ship Operations	Fleet Maint.	Clients
Berner, J.	MSME	TS-SSBI	24	Crystal City	X	X	X	X	USN, USCG
Boyd, P.	MSE	Secret	32	Crystal City	X	X	X	X	USCG
Guest, F.	MS, MBA	Secret	30	Crystal City		X	X	X	USN, USCG
Kosar, C.	BS	Secret	18	Crystal City	X	X		X	USN, USCG
Lohrmann, W.	MS	Secret	31	Crystal City		X	X	X	USN, USCG
Scalzo, J.	MSME	Secret	28	Crystal City	X	X	X	X	USN, FMS
Schoene, D.	BS, MBA	Secret	21	Crystal City	X	X	X	X	USN, USCG
Zarhloul, S.	BSME, MIS	Secret	10	Crystal City	X	X			USA, USCG

1 2 3 4 5 6 7 8 9 10

# EBA's Approach is Proven to Develop Practicable, Defensible, and Auditable Cost Estimates



# EBA's Approach is Proven to Develop Practicable, Defensible, and Auditable Cost Estimates

## TASK 1

Understand  
the Program

## TASK 2

Define a  
Cost Element  
Structure

## TASK 3

Select Cost Estimating  
Methodologies  
*(element by element)*

## TASK 4

Identify Data Sources  
& Collect Cost Data

## TASK 5

Develop & Document  
Cost Estimate(s)

## TASK 6

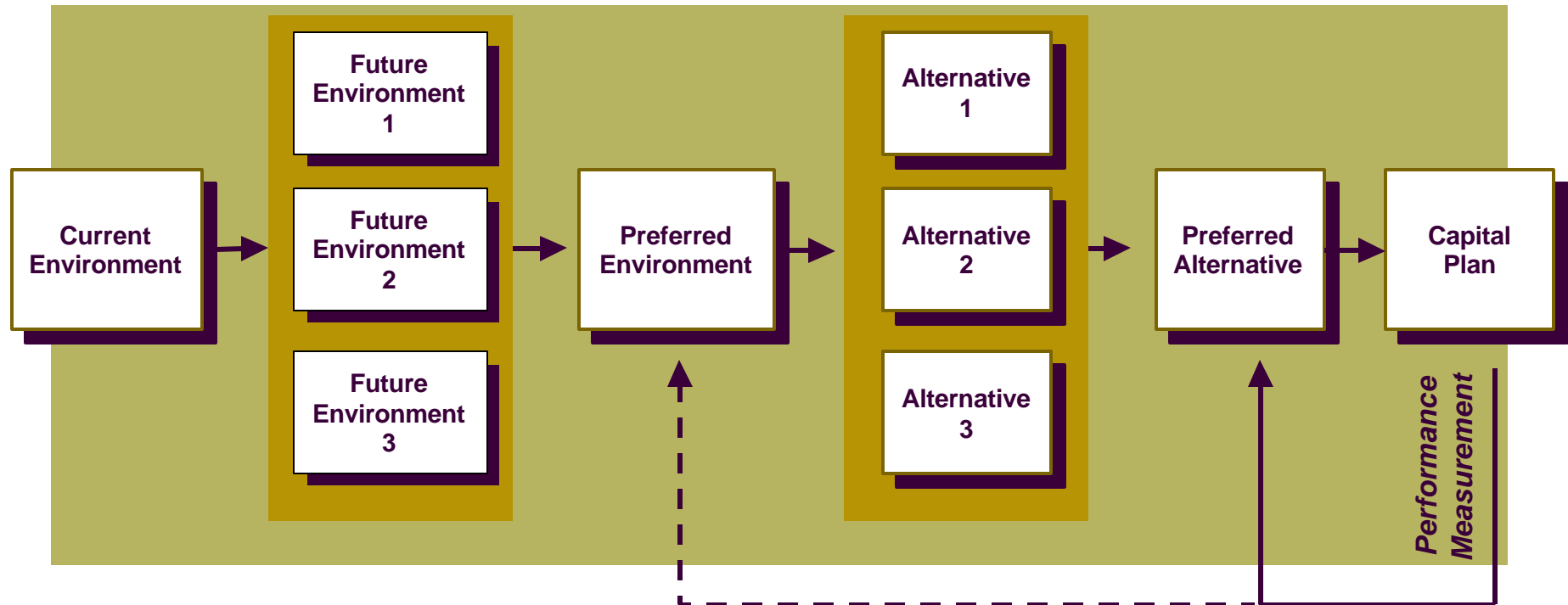
Perform Sensitivity  
Analyses

## TASK 7

Integrate into Decision  
Documentation &  
Program Budget

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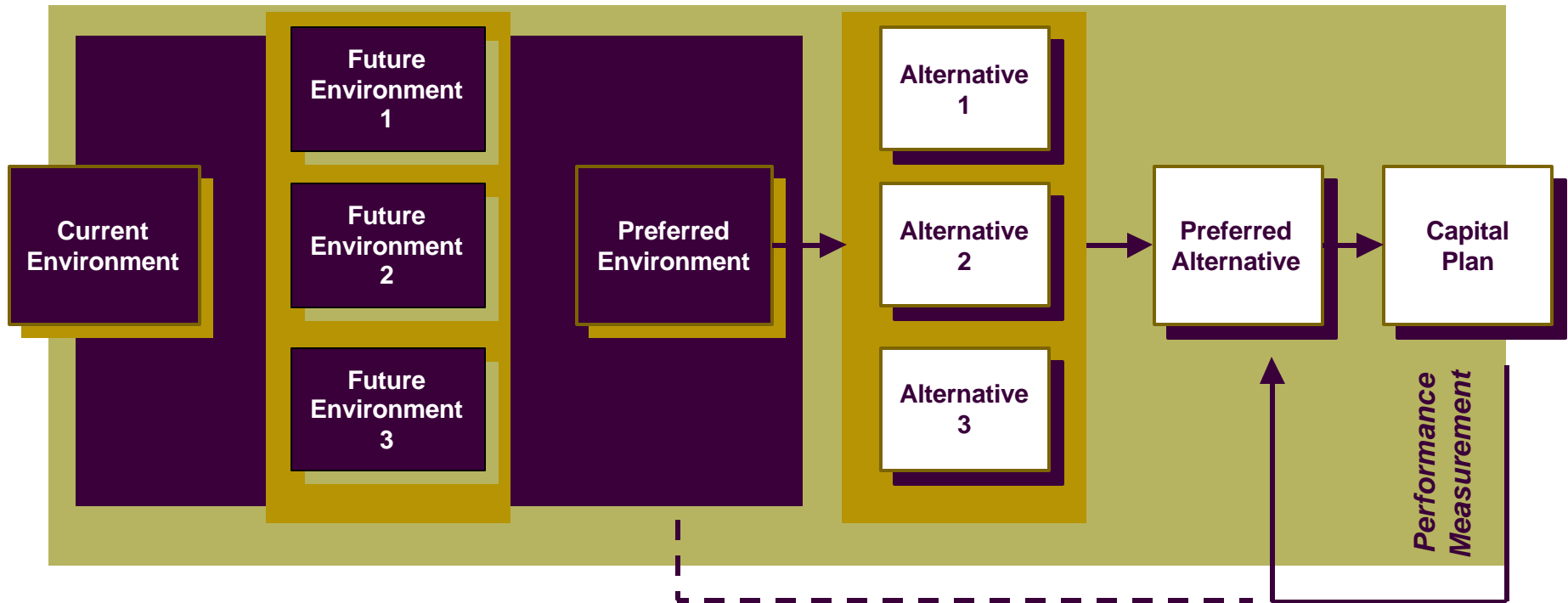
# General Model of Investment Analysis



## *Investment Analysis*

A family of analyses that provides insight and guidance to support resource allocation decisions: based on economic, financial, and other measures.

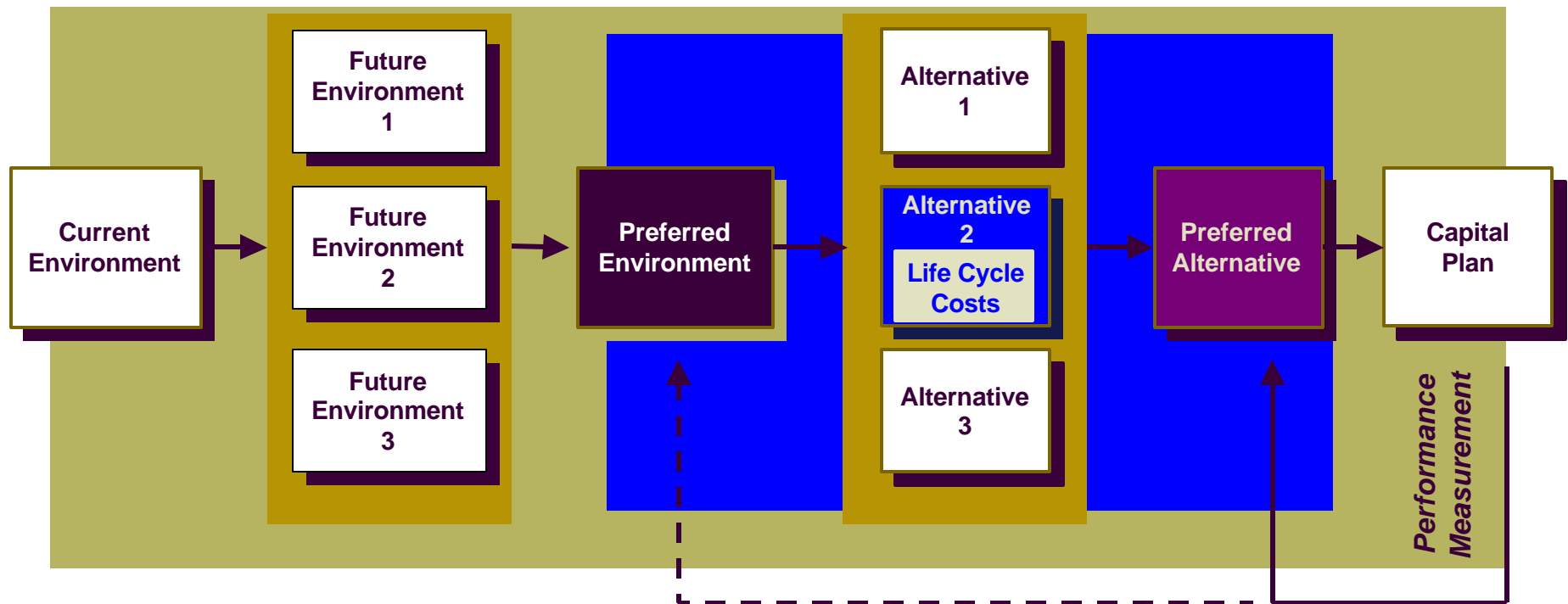
# Elements of Investment Analysis... Strategic Planning



## *Strategic Planning*

Developing the vision, mission, and objectives for an organization and establishing generalized plans of action that can be implemented to meet specific organizational goals and objectives.

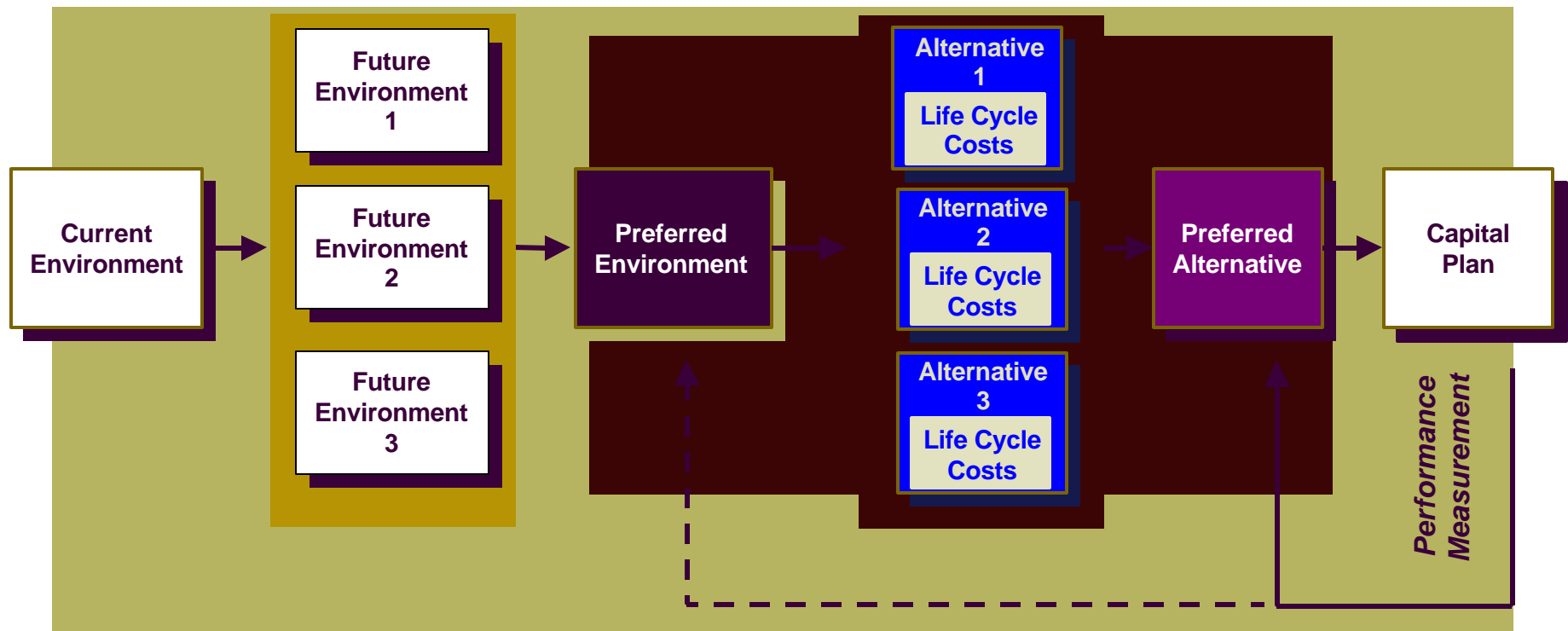
# Elements of Investment Analysis... Life Cycle Cost Estimating



## ***Life-Cycle Cost Estimating***

Approximating the non-recurring and recurring costs associated with the development, implementation, and support of an alternative over a defined period of time.

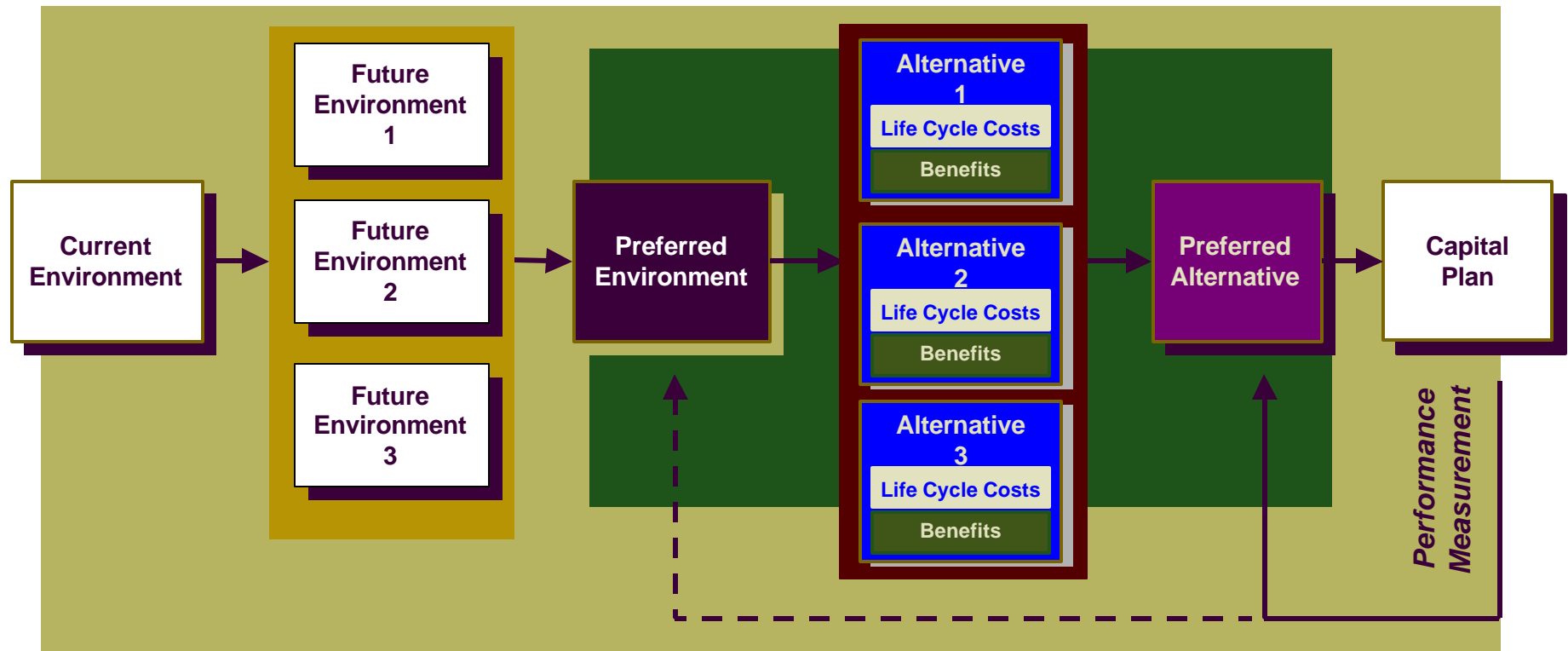
## Elements of Investment Analysis... Cost Effectiveness Analysis



### ***Cost Effectiveness Analysis***

Determining which of several alternatives has the lowest life-cycle cost; given that the benefits do not differ significantly between alternatives and each alternative satisfies a given set of requirements.

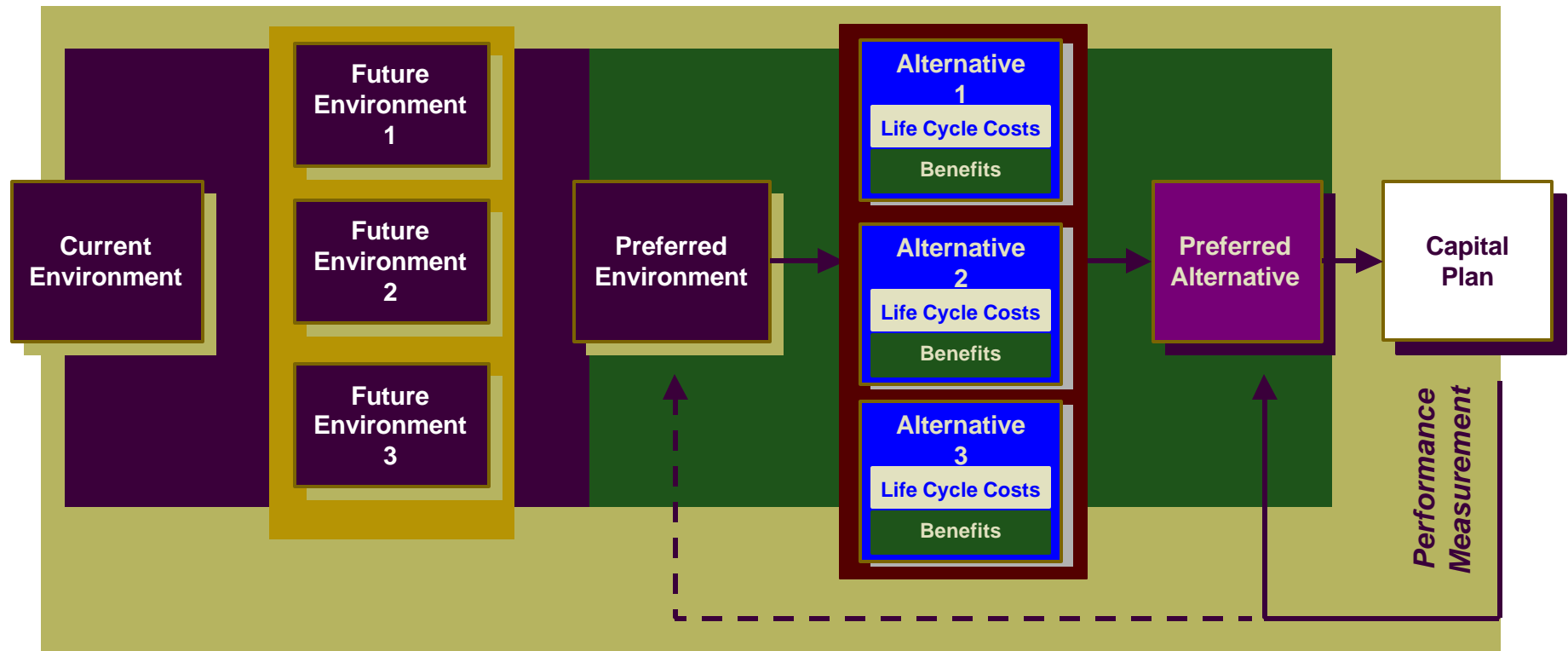
## Elements of Investment Analysis... Cost Benefit Analysis



### *Cost Benefit Analysis*

A systematic method of assessing the economic desirability of alternatives based on their respective costs and benefits.

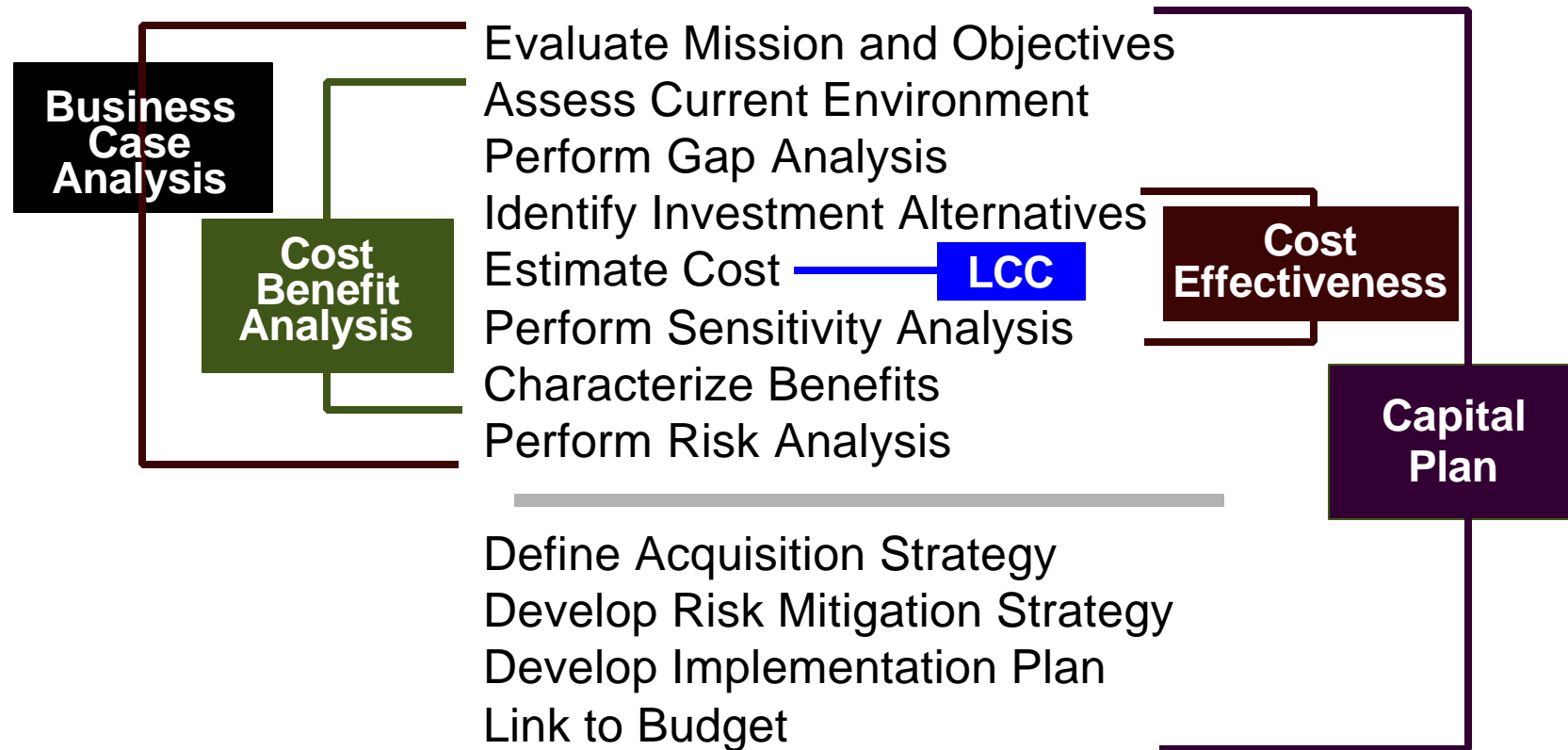
## Elements of Investment Analysis... Business Case Analysis



### ***Business Case Analysis***

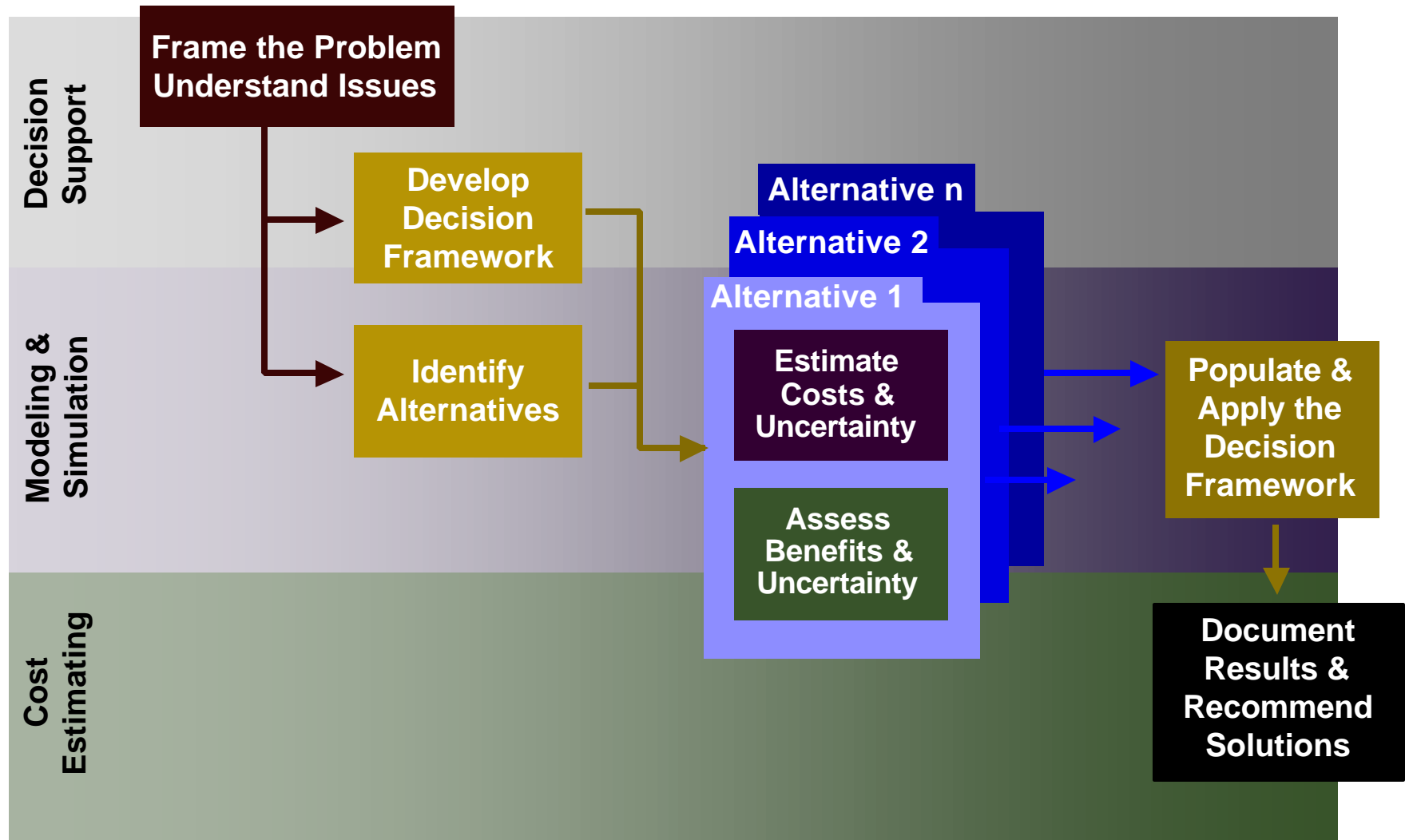
An extended form of cost benefit analysis that includes additional factors such as risk analysis, compliance with mission and strategic objectives, performance measures, and impact on stakeholders.

## Relationship Between the Elements of Investment Analysis



***While this model holds true for many projects, client requirements often force overlaps between techniques.***

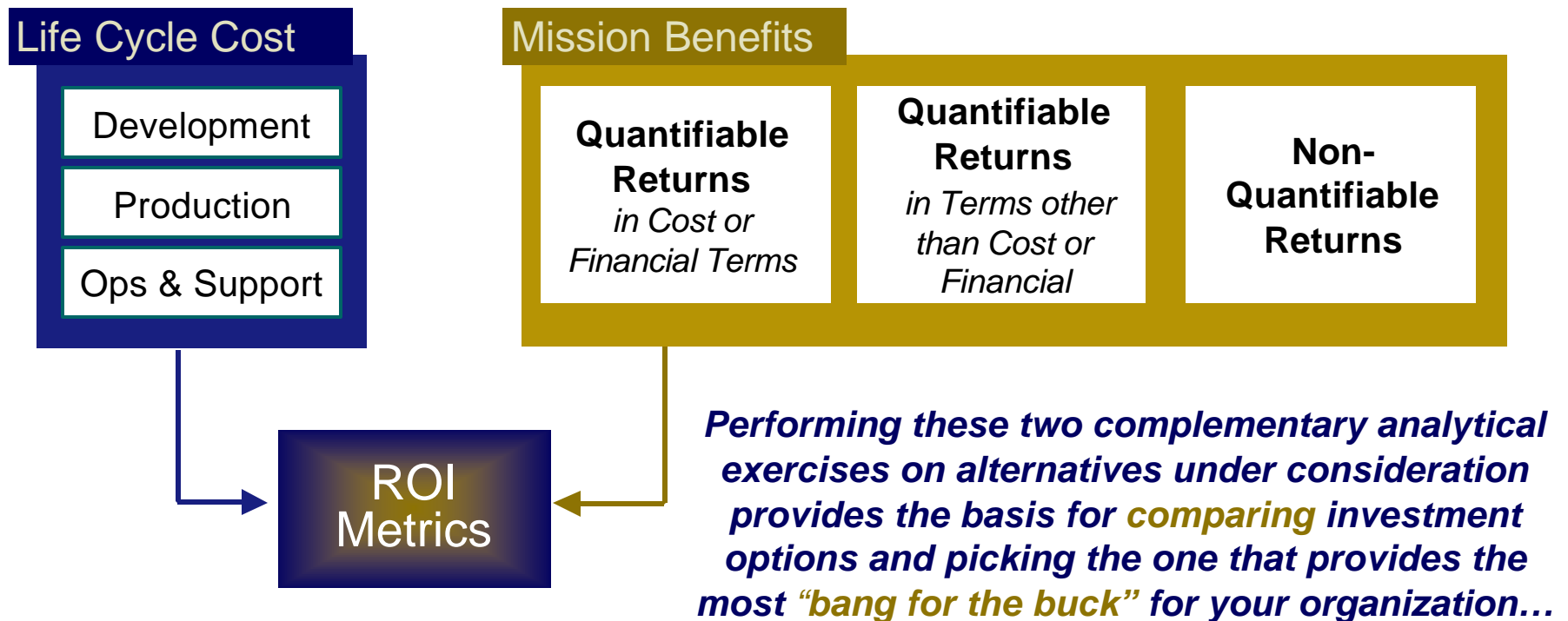
# EBA's Methodology for Developing Cost/Benefit and Business Case Analyses



# Framework for Relating Costs and Benefits

**Cost/Benefit Analyses and Business Case Analyses** have two fundamental & indispensable components:

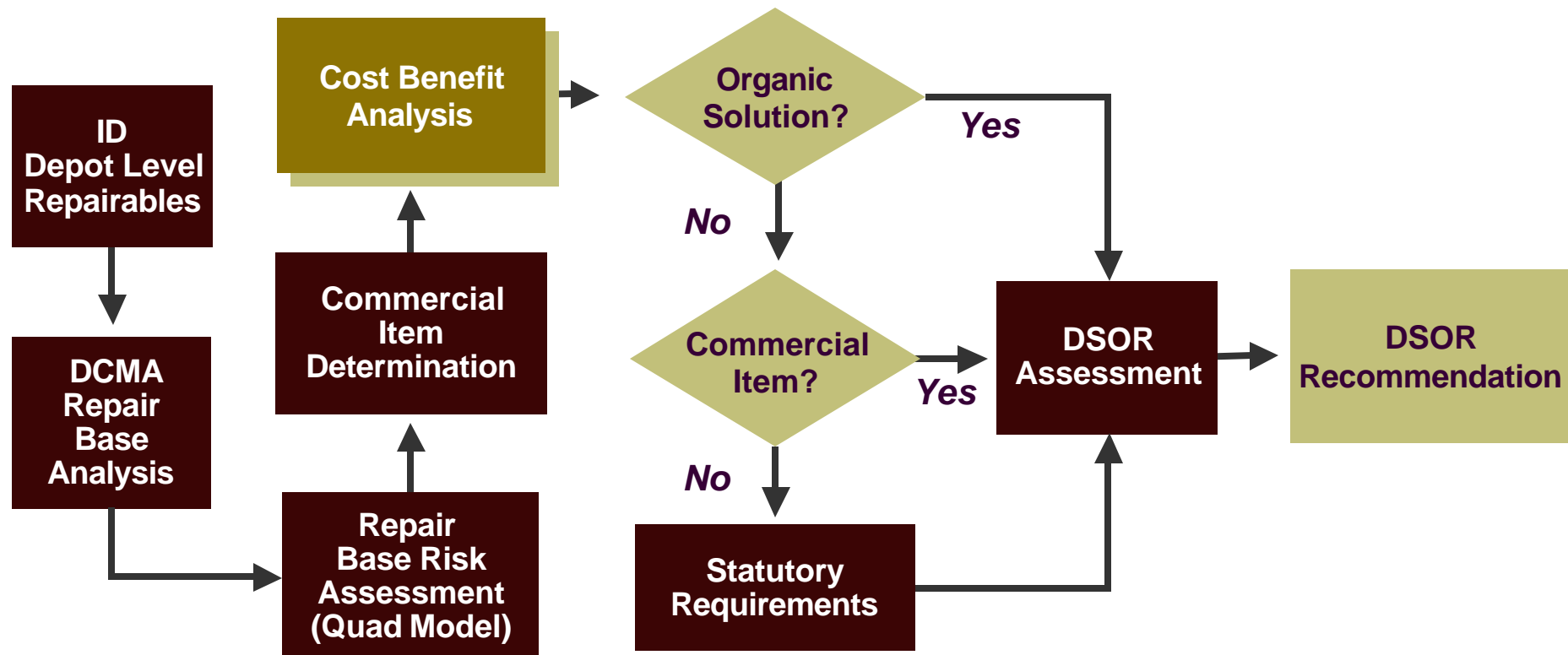
- Life-Cycle Cost Estimates (LCCEs): system-focused
- Life-Cycle Benefits Analyses (LCBAs): mission-oriented



# Framework for Depot Source of Repair

## Using O&SCE techniques within our Cost Benefit Analysis to support the Depot Source of Repair (DSOR) Selection Process for DRPM AAA

- Required under United States Code, Title 10, Part IV, Chapter 146, Section 2464 and the DoD Joint Depot Maintenance Program.
- Results are reported to the Joint Depot Maintenance Activity Group recommending either public or private depot maintenance.



# EBA Staff Are Trained in Multiple Commercial Cost Estimating Models, Applications, and Knowledge Bases

## ***Cost Estimating Models & Applications***

- SEER-SEM (Software Parametric Model)
- ACE-IT (LCC Integrating Shell)
- PRICE Suite (Software, Hardware, HL, M)
- EDCAS (Equipment Designer's Cost Analysis System)
- COCOMO/REVIC (Software Parametric Model)

## ***Cost Management Models & Applications***

- Oros® Suite from ABC Technologies (Activity Based Costing)
- Crystal Ball (Cost Risk Management)

## ***IT Total Cost of Ownership Models & Benchmarks***

- GartnerGroup TCO Manager (TCO Process Benchmarking)
- HMC International TCO Wizard (TCO Analysis Framework)

## ***Decision Analysis Applications & Utilities***

- Team Expert Choice (Decision Support/Analysis)
- Logical Decisions for Windows (Decision Support/Analysis)

## We Also Develop Custom Cost Models for End-Client Ownership and Operation as Needed

### *Cost Estimating Models*

- ProCES [Procurement Cost Estimating System]  
- New Attack Submarine Program, Naval Sea Systems Command
- TRACE Model [Terminal Requirements and Cost Estimating Model] - MILSATCOM Joint Terminal Engineering Office, USAF
- SACEM [SATCOM Cost Model] - Navy EHF SATCOM Program, Space and Naval Warfare Systems Command
- STACEM [Solid Technology Assessment and Cost Estimating Model] - Office of Naval Research

### *Cost Management Models*

- HUMS/CBAM [Health and Usage Monitoring / Cost - Benefit Analysis Model] - Rotorcraft Technology Association
- ICAM [Integrated Cost Analysis Model] - CINCPACFLT
- GEOBudget - Geography Division, US Bureau of the Census

## Establishing the Current Environment Baseline

***EBA has access to the following sources for the purpose of establishing O&S baselines***

- **VAMOSC**- Visibility and Management of Operating and Support Costs for Navy and USMC
- **OSMIS** - Operating and Support Management Information System for ground systems
- **HUMS/CBAM** - Health Usage Monitoring System/Cost Benefit Analysis Model for condition based maintenance analysis
- **FAMAD** - Firefighting Apparatus Maintenance Activity Database. Booz Allen database with over 60 thousand lines of maintenance data relative to firefighting apparatus

## Booz Allen Has Impressive Credentials and Expertise in CE/CA & Ship, Ship Systems Logistics

	Cost & Economic Analysis	Ship, Ship Systems Logistics
<b><i>Demonstrated Expertise</i></b>	Certified Cost Estimators/ Analysts and Nationally Recognized Leaders in the Society of Cost Estimating and Analysis	Completed PLCCE for DD-21, Affordability Analysis and Cost Estimate for USCG Deepwater, Logistics Support to NSSN & AEGIS
<b><i>Experienced Personnel</i></b>	Staff of > 70 Cost Professionals having Performed > 100 Cost Estimates/Analyses in Past 3 Years	Staff of > 60 Professionals having Supported All Major Naval Ship Programs
<b><i>Proven Methodology</i></b>	Booz Allen's Approach Combining the Best of Analog, Parametric, and Engineering Build-up Techniques	BAH's Approach Incorporates Best Practices in Systems Engineering and Acquisition and Logistics
<b><i>Resident Toolset</i></b>	Current Databases, Models, and Processes in Place	Databases, Webworks, Risk Tools, and Group Decision Tools
<b><i>State-of-the-Art Understanding</i></b>	Legislative Requirements, Budget Processes, Agency Policy	Acquisition Reform Initiatives, PLCCE, CARD, and other DOD 5000 series Required Documentation

## Many of Our Current Major Programs Employ Detailed Engineering Build-Ups Using Analogous Data...

Client	Assignment
<b>Ballistic Missile Defense Office</b> <i>Lead System Integrator (LSI)</i> <i>National Missile Defense Program</i>	Responsible for developing the LSI System Life Cycle Costs (SLCC) estimates for the Battle Management C3 (BMC3), Systems Engineering and Integration (SE&I), Upgraded Early Warning Radar (UEWR) and Deployment and Sustainment (D&S) Integrated Product Teams (IPTs). Specific efforts include developing LCCE's for the Program Definition and Risk Reduction (PDRR) Phase, Engineering and Manufacturing Development (EMD) Phase, Production, Fielding/Deployment (PF/D) Phase and Operations Support (OS) Phase.

## ...While Several of Our Other Major Programs Rely Heavily on Parametric Models and Industry Benchmarks

<b>Department of the Navy</b> <i>Intranet Business Case Analysis</i> <i>(NMCI BCA)</i>	Conducted a business case analysis for the Navy Program Executive Officer for Information Technology. The BCA documents current performance levels, related costs and per seat total cost of ownership (TCO) for comparison to a single out-sourced provider. Also includes a DISN/commercial analysis for long-haul communications.
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## Most of Our Major Tactical and Non-Tactical Programs Use Multiple Estimating Techniques, Data, and Models...

Client	Assignment
<b>Naval Sea Systems Command</b> <i>New Attack Submarine (NSSN)</i>	Supported the developed the Navy's Service Cost Position life cycle cost estimate for the New Attack Submarine. The SCP was largely based upon bottom-up engineering estimates, cost estimating relationships from other submarine programs, and complementary parametric modeling estimates.
<b>Space and Naval Warfare Systems Command</b> <i>Shipboard Non-Tactical ADP Program (SNAP) III</i>	Developed the SNAP III Economic Analysis (EA) for presentation to the OSD Cost Benefit Review Group (CBRG) and the Major Automated Information Systems Review Council (MAISRC) in support of a various program reviews and milestone decisions.

## ...With Software Development Programs Especially Benefiting from COTS Parametric Estimating Models

<b>US Marine Corps</b> <i>Asset Tracking Logistics and Supply System (ATLASS II+)</i>	Conducted an independent assessment to determine whether the software development and implementation cost for ATLASS II+ were fair and reasonable. A function point analysis was conducted on the ATLASS II+ software in order to estimate the size and complexity of the final product. The results of the initial analysis were processed through the software parametric estimating tool, SEER-SEM.
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## Our Estimates Are Used for a Variety of Purposes, Ranging from ROI Decisions to POM and Budget Submissions...

Client	Assignment
<b>US Marine Corps</b> <i>Driver's Vision Enhancer</i>	Develop a Life Cycle Cost Estimate for the Driver's Vision Enhancer (DVE) for Marine Corps tactical vehicles that included an Operating and Support (O&S) Delta Analysis for commercial versus organic maintenance support.
<b>US Marine Corps</b> <i>DRPM AAV</i>	Assist the Deputy Director of Logistics in the Depot Source of Repair (DSOR) selection process and develop Cost Benefit Analyses for designated Depot Level Repairables (DLR) to determine optimal source of repair - commercial or organic.
<b>US Coast Guard</b> <i>Deepwater Capability Replacement</i>	As the Independent Analysis Government Contractor (IAGC), completed an analysis of alternative Integrated Deepwater Systems (IDS, ships, aircraft, logistics and C4ISR systems for FY2002 to FY2042), developed TOC estimate, and conducted affordability analysis.
<b>US Navy</b> <i>DD-21 Program</i>	Developed DD-21 Milestone I PLCCE and supported development and review of CARD. Supported DD-21 COEA cost estimates.

## Our Team Has Supported a Variety of Logistics, O&S Concepts and Plans, and Naval Maintenance Tasks

Client	Assignment
<b><i>Turkish Navy</i></b> <i>NAVSEA PMS 380</i>	Supported the Turkish Navy Shipyard Restructuring Program to establish modern ship maintenance programs and to modernize two public shipyards. Analyzed the Turkish warship maintenance program and provided recommendations for improvements.
<b><i>US Coast Guard</i></b> <i>Deepwater Capability Replacement</i>	Developed a Concept of Logistics that provided a high-level description of the principles, practices, and system required to meet the Integrated Deepwater System logistics requirements. Considered migration strategies for technology insertion over 40 years (FY2002 to FY2042).
<b><i>Egyptian Navy</i></b> <i>NAVSEA PMS 380</i>	Providing support for upgrade, modernization, and development of the support, maintenance, and logistics capabilities required to perform lifecycle maintenance of ex USS Oliver Hazard Perry Class warship.

## Multiple Contract Vehicles Provide Easy Access to Our Services

Contract	Scope of Services	Period of Performance	Booz-Allen Contact
<b>GSA Management, Organization and Business Improvement Services (MOBIS)</b> Contract: GS-23F-9755H	<ul style="list-style-type: none"> <li>• Consultation Services</li> <li>• Financial Management</li> <li>• Cost/Benefit Analysis</li> <li>• Organization Assessments</li> <li>• Decision Support Systems</li> <li>• Program Audits</li> <li>• Statistical Analysis</li> <li>• Strategic Planning</li> <li>• Survey Services</li> </ul>	10/01/97 to 09/30/02	George Williams (703) 917-2374
<b>GSA Federal Systems Integration and Management Center (FEDSIM)</b> Contract: GS-35F-0306J	<ul style="list-style-type: none"> <li>• Software Management</li> <li>• Acquisition Support</li> <li>• Communications/Satellite System Support</li> <li>• Systems Integration</li> </ul>	01/01/96 to 12/31/00	George Williams (703) 917-2374
<b>GSA Professional Engineering Services</b> Contract: GS-10F-0090J	<ul style="list-style-type: none"> <li>• Systems Engineering and Integration</li> <li>• Cost/Performance Studies</li> <li>• Feasibility Analysis</li> <li>• Acquisition Support</li> </ul>	04/27/99 to 04/26/04	George Williams (703) 917-2374
<b>Defense Medical Information Management/ Systems Integration, Design, Development, Deployment, Operations and Maintenance Services (D/SIDDOMS II), Lot I, Functional Area Services (FAS)</b> Contract: DASW01-97-R-0051	<ul style="list-style-type: none"> <li>• Functional Requirements Analysis</li> <li>• Health Care Studies and Analysis</li> <li>• Business Process Reengineering</li> <li>• Information/Data Engineering</li> <li>• Benefits Assessment and Monitoring</li> <li>• System Functional Performance Metrics</li> <li>• System Review and Oversight</li> </ul>	05/15/00 to 05/14/05	Jim Clampitt (703) 902-5118

**Point of Contact: Craig Starnes (703) 902-4026**

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# Next Steps Should Focus on Integrating Our Cost Estimating Capability with Your Business Processes

## *Understanding the PAV initiatives ...*

- Objectives
- Goals

## *Determine if OCI concerns exist for either party ...*

## *Identify Appropriate Contract Vehicle/Access...*

- From Transactional GSA FSS and/or GWAC Task Orders to Sustaining SETA Contracts
  - GSA MOBIS - GS-23F-9755H
  - GSA Professional Engineering Services - GS-23F-0025K
  - GSA Auditing & Financial Management Services - GS-23F-0109L

## *Booz Allen Hamilton Web Sites...*

- [www.bah.com](http://www.bah.com) (BAH Home Page)
- [www.bah.com/eba](http://www.bah.com/eba) (Economic & Business Analysis Home Page)

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delivering results that endure

## Points of Contact

Craig Starnes	902-4026
Sandy Milford	902-4021
Jack Olinick	540-5025
Joe Berner	412-7562